

including third nitride (a semiconductor layer group) is on the second nitride and is independent from the first and second nitrides.

With further reference to the attached Exhibit, the PTO's position is that Ohba discloses an AlN (Ga) layer 11 having a thickness between 0.03-0.5 μm that corresponds to the first nitride recited in pending claim 1. The PTO acknowledges, however, that Ohba does not disclose a nitride layer positioned on layer 11 which corresponds to a second nitride, as claimed. The PTO alleges that Ogawa discloses a GaN layer 103, which includes a thickness of around 0.02 μm , corresponding to a second nitride which skilled artisans would have been motivated to add above Ohba's AlN layer 11. For the reasons discussed below, the PTO's position is not legally supportable under §103 and should therefore be withdrawn.

With further reference to the attached Exhibit, the PTO argued that Ohba's AlN layer 11 must be formed directly on sapphire substrate 10. Applicants agree with the PTO that Ohba explicitly teaches that AlN layer 11 is required to be formed directly on sapphire substrate 10 (see Ohba's Abstract, for example). As such, Applicants respectfully submit that skilled artisans would believe that, in order to obtain the benefits of Ohba's invention, no other layers should be positioned between Ohba's AlN layer 11 and substrate 10. The PTO agreed with this statement during the interview.

The PTO further agreed that Ogawa teaches that GaN layer 103 is positioned between AlN layer 104 and substrate 102, and is therefore not located above AlN layer 104. As such, relying upon the explicit teachings of Ogawa, if skilled artisans were to attempt to combine Ohba and Ogawa, the logical result would be that GaN layer 103 should be formed beneath Ohba's AlN layer 11. Again, it is clear from Ogawa's disclosure that GaN layer 103 is positioned on substrate 102 beneath AlN layer 104. The PTO has already admitted, however, that skilled artisans would not have been motivated to form another nitride layer between Ohba's AlN layer 11 and substrate 10, in view of the explicit teachings in Ohba. Based on this alone, the PTO's §103 rejection over Ohba in view of Ogawa is not legally supportable and should be withdrawn.

Since the PTO admitted that skilled artisans would not be motivated to add Ogawa's GaN layer 103 beneath Ohba's AlN layer 11, the PTO compared Applicants' pending claim 1 to Fig. 6 of Ohba and posed the query of "where else other than on top of Ohba's AlN layer 11 would one put Ogawa's GaN layer 103 in the structure shown in Fig. 6 of Ohba?" Based on

the explicit teachings in each of Ohba and Ogawa (discussed above), skilled artisans would not have been motivated to put Ogawa's GaN layer 103 beneath or on top of Ohba's AlN layer 11. For example, Ohba discloses that AlN layer 11 has such a high crystal quality that light-emitting layers 12-16 can be simply grown thereon (e.g., see col. 5, lines 34-43). As such, the addition of Ogawa's layer 103 above Ohba's layer 11 is based on pure hindsight, especially since such a layer would be unnecessary surplusage according to the teachings in Ohba.


Nor has the PTO cited to any evidence in Ohba or Ogawa in support of its apparent position that one would have been motivated to ignore Ogawa's teaching that GaN layer 103 should be located on substrate 102 and position Ogawa's GaN layer 103 (in a stacking order that is different from what is shown in Ogawa's Fig. 1) on top of Ohba's AlN layer 11. Applicants can find no motivation (absent Applicants' own disclosure) in Ohba or Ogawa supporting the PTO's contention that one would have been motivated to pick and choose where Ogawa's GaN layer 103 could be placed in Ohba's structure, let alone that Ogawa's GaN layer 103 should be taken out of Ogawa's disclosed stacking order and be specifically positioned on top of Ohba's AlN layer 11. Again, as discussed above, skilled artisans simply would not have been motivated to make such a modification of Ohba's structure. This is yet another reason that this rejection is erroneous and should be withdrawn.

In view of all of the foregoing, reconsideration and withdrawal of the §103 rejection over Ohba in view of Ogawa are respectfully requested.

If Examiner Im or Primary Examiner Nadav believe that contact with Applicants' attorney would be advantageous toward the disposition of this case, they are herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,


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January 10, 2005

Date

SWC/gmh
Attachments: Exhibit

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